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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,762	07/20/2006	Andre Lambert	RN03087	5135

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EXAMINER	
HUTCHINSON, SHAWN R	

ART UNIT	PAPER NUMBER
4174	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/560,762	LAMBERT ET AL.	
	Examiner	Art Unit	
	Shawn R. Hutchinson	4174	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

4a) Of the above claim(s) *1-23* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *24-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 35 is objected to because of the following informalities: a comma is missing between polyamides and polyimide. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 41 recites the limitation "The process according..." and refers to Claim 39. There is insufficient antecedent basis for this limitation in the claim. The independent process claim is 40. Claim 42 is affected by its dependency on Claim 41. Appropriate action is required.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is obvious over the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory

double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

A registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 24-37 and 39-42 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 31-58 of copending Application No. 10/523420 to Leite et al. {Leite} in view of Imamura (JP,07-145511 A). This is a provisional obviousness-type double patenting rejection.

Leite teaches a flame-retardant composition comprising a flame-retardant organophosphorus compound impregnated on a porous surface (Cm 31)~[[Cm 24 | 33]] >(prior art citation) corresponding with, ~, [[instant claim]]<. The composition has a weight concentration of between 20- and 70-weight percent to the weight of the porous substrate (Cm 48)~[[Cm 25 | 42]. The substrate is silica, alumina, or metal oxides (Cm 34)~[[Cm 26 | 31]]. The particle size is less than 1-μm (Cm 36)~[[Cm 27]]. The pore volume is at least 0.5-ml·g^{-1} (Cm 32)~[[Cm 29 | 32]]. Agglomerate diameter is greater than or equal to 60-μm (Cm 35)~[[Cm30]]. The flame-retardant organophosphorus compound are claimed to be esters (Cm 47)~[[Cm 34]]. Thermoplastic polymers polyolefins, polyamides, or polyesters are claimed as suitable resins (Cm 56)~[[Cm 35-37]]. The flame-retardant is a liquid (Cm 50)~[[Cm 41]]. Leite lacks teaching the composition can be used in fibers or yarns.

Imamura claims a polyester monofilament fiber with 0.1 to 10% PTFE particles less than 5-μm diameter, (Cm1)~[[Cm 24-26, 27, 28, 31, 33-37, and 39]]. Imamura

implicitly teaches examples of adding polytetrafluorethylene particles to polyester filament and spinning the filament with speeds over 1000-m·min^{-1} (Table 1)~[[Cm 40]].

At the time of the invention, it would have been obvious to follow the teaching regarding synthetic filament fiber extrusion of a thermoplastic resin comprising a particulate filler {Imamura} with the flame-retardant thermoplastic composition {Leite}. The motivation would have been to make synthetic filament fibers exhibit physical and mechanical properties of the particle, for micron-sized polytetrafluorethylene particles hydrolysis resistance and flex-abrasion resistance are the objective of invention. Small particle size prevents filter packing ({Imamura} [0006 | 0011]). Therefore, it would have been obvious to combine Leite with Imamura and obtain the invention as specified.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 24-28, 31, 33-37, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable by Atarashi et al. {Atarashi} (US 6025421 A) in view of Imamura (JP,07-145511 A).

Atarashi claims a flame-retardant thermoplastic resin composition comprising 100 parts by weight of a resin and from 5 to 100 parts of an inorganic filler treated on the surface with a phosphate (Cm1)~[[Cm 24]] or >(prior art citation) corresponding with, ~, [[instant claim]]<. The inorganic substrate can be metal oxides like titanium oxide, magnesium hydroxide, or silica (Cm8 | C3:L41-55)~[[Cm 25 | 31]]. The additive can be particles or powder, the latter can reasonably be interpreted as agglomerates (C3:L41-55)~[[Cm 27, 28]] or an aromatic orthophosphate (C1:L63-67)~[[Cm 33]]. Phosphoric esters as organic fillers for are cited as being background art, (C1:L48-60)~[[Cm 34]]. Styrene, polyethylene, polyester, polyamide, poly(vinyl acetate), polycarbonate (Cm4)~[[Cm 35-37]]. Stabilizers, pigments, plasticizers, lubricants, and blowing agents can be present in the composition (C4:L27-34)~[[C39]]. Atarashi lacks teaching explicitly that the composition can be converted into fibers or yarns.

Imamura claims a polyester monofilament with 0.1 to 10% PTFE particles less than 5-μm diameter, (Cm1)~[[Cm 24-26, 27, 28, 31, 33-37, and 39]].

At the time of the invention, it would have been obvious to one of ordinary skill in the art to use extrude fibers from a thermoplastic resin containing particles {Imamura} for the flame-resistant thermoplastics resin composition {Atarashi}. The motivation would have been to make synthetic filament fibers exhibit physical and mechanical properties of the particle, for micron-sized polytetrafluorethylene particles hydrolysis

resistance and flex-abrasion resistance are the objective of invention. Small particle size prevents filter packing ({Imamura} [0006 | 0011]). Therefore it would have been obvious to combine Atarashi with Imamura and obtain the invention as specified.

9. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over Atarashi et al. {Atarashi} (US 6025421 A) in view of Imamura (JP,07-145511 A) as applied to Claim 35 in further view of Mehta (*Physical Constants of Various Polyamides*) and Rouette (*Encyclopedia of Textile Finishing*).

As discussed above, Atarashi claims a flame-retardant thermoplastic resin composition comprising 100 parts by weight of a resin and from 5 to 100 parts of an inorganic filler treated on the surface with a phosphate (Cm1)~[[Cm 24]]. Imamura claims a polyester monofilament with 0.1 to 10% PTFE particles less than 5-μm diameter, (Cm1)~[[Cm 24-26, 27, 28, 31, 33-37, and 39]]. Atarashi and Imamura lack teaching equivalent polyamides that are in the polyamide family.

Mehta teaches that polyamide 6, polyamide 6,6, polyamide 6,10, and polyamide 12 are members of the general polyamide family (Page V/121-V133)~[[Cm38]].

At the time of the invention, it would have been obvious to use the teaching for specific types of polyamides {Mehta} in the flame-retardant polyamide composition {Atarashi} extruded into fibers {Imamura}. The motivation would have been to alter the effect of adsorption based on the differences between the crystallographic data ({Mehta} Page V/123-V124), as evidenced by teaching crystallinity alters resistance to solvent

penetration ({Rouette} P263). Therefore, it would have been obvious to combine Atarashi and Imamura with Mehta and Rouette and obtain the invention as specified.

10. Claims 29-30, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable by Atarashi et al. {Atarashi} (US 6025421 A) in view of Imamura (JP,07-145511 A) as applied to Claims 28 and 31 in further view of Abolins et al. {Abolins} (US 4233199 A).

As discussed above, Atarashi claims a flame-retardant thermoplastic resin composition comprising 100 parts by weight of a resin and from 5 to 100 parts of an inorganic filler treated on the surface with a phosphate (Cm1)~[[Cm 24]]. Imamura claims a polyester monofilament with 0.1 to 10% PTFE particles less than 5-μm diameter, (Cm1)~[[Cm 24-26, 27, 28, 31, 33-37, and 39]]. Atarashi and Imamura lack teaching that the particles can have a specific pore size and surface area.

Abolins teaches thermoplastic compositions comprising a resin and an organophosphorus compound (Cm 1). The filler has, "an openly porous...structure... capable of absorbing...organic liquids in relatively large quantities" (C3:L43-45)~[[Cm 29]]. Because the particles providing the flame-retarding means are substantially identical, a pore volume of at least that claimed is inherent to the structure. Burden to prove otherwise is Applicant's; see *In re Best*, 562 F.2d 1252, 1255 n.4, 195 USPQ 430, 433 n.4 (CCPA 1977) and *Toro Co. v. Deere & Co.*, 355 F.3d 1313, 1320, 69 USPQ2d 1584, 1590 (Fed. Cir. 2004). Surface area of silica particles, one type claimed [[Cm 26]], is taught to be 1- to 40-$m^2 \cdot g^{-1}$ (C4:L16-32)~[[Cm 32]]. While the claimed range is 50-$m^2 \cdot g^{-1}$, it is reasonable to expect that the size of these functionally equivalent

particles will vary somewhat. Therefore, the range can be considered to overlap and be obvious on its face; see *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). Regarding powder or agglomerate size, "finely particulate solid filler" is taught to have a size of less than 250-mils, and these overlapping ranges are obvious; see *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976).

At the time of the invention, it would have been obvious to claim specifics of particle pore and surface sizes for the organophosphate fillers in flame-retardant thermoplastic resin compositions {Abolins} in more general flame-retardant thermoplastic resin compositions {Atarashi} extruded into synthetic filament fiber {Imamura}. The motivation would have been to render thermoplastic resins flame-retardant and based on the ranges and properties discussed above ({Abolins} C1:L6-14). Therefore it would have been obvious to combine Atarashi and Imamura with Abolins and obtain the invention as specified.

11. Claims 40-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imamura (JP,07-145511 A) in view of Atarashi et al. {Atarashi} (US 6025421 A).

As discussed above, Imamura claims a polyester monofilament with 0.1 to 10% PTFE particles less than 5-μm diameter, (Cm1)~[[Cm 24-26, 27, 28, 31, 33-37, and 39]]. Imamura implicitly teaches examples of adding polytetrafluorethylene particles to polyester filament and spinning the filament with speeds of over 1000-m·min^{-1} (Table 1)~[[Cm 40]]. Imamura lacks teaching relative proportions of additional additives.

Atarashi claims a flame-retardant thermoplastic resin composition comprising 100 parts by weight of a resin and from 5 to 100 parts of an inorganic filler treated from about 5 to 50 parts on the surface with an aromatic orthophosphate (Cm1)~[[Cm 42]]. As claimed, the relative concentration of the inorganic filler and flame-retardant compound is inherent and unpatentable; see *In re Best*, 562 F.2d 1252, 1255 n.4, 195 USPQ 430, 433 n.4 (CCPA 1977).

At the time of the invention, it would have been obvious to follow the teaching regarding synthetic filament fiber extrusion of a thermoplastic resin comprising a particulate filler {Imamura} with the flame-retardant thermoplastic composition {Atarashi}. The motivation would have been to make synthetic filament fibers exhibit physical and mechanical properties of the particle, for micron-sized polytetrafluorethylene particles hydrolysis resistance and flex-abrasion resistance are the objective of invention. Small particle size prevents filter packing ({Imamura} [0006 | 0011]). Therefore, it would have been obvious to combine Imamura with Atarashi and obtain the invention as specified.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 for additional information.

Conclusion

Any inquiry concerning this communication from the Examiner should be directed to Shawn R. Hutchinson whose telephone number is (571) 270-1546. The Examiner can normally be reached on 7 AM to 5 PM, M-F, alternate Fridays off.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, D. Lawrence Tarazano can be reached on (571) 271-1515. The fax phone number for the organization where this application is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call (800) 786-9199 (IN USA OR CANADA) or (571) 272-1000.

Shawn R. Hutchinson
Examiner
Art Unit 1709

D. LAWRENCE TARAZANO
PRIMARY EXAMINER